

5

**ABSTRACT**

Disclosed herein is an anti-rotational apparatus for ensuring secure placement of a sample tube on a sample carousel. The sample tube includes a first open proximal end and a second closed distal end. Between the ends and located adjacent to the proximal end, the sample tube includes a radially outwardly extending annulus having an abutment surface. The abutment surface includes anti-rotational structure. The invention in an exemplary embodiment includes a sample carousel having an outer periphery zone having a plurality of openings. The openings are sized and shaped for compatible sliding engagement with the sample tube and adjacent to the openings are abutment surfaces. Each abutment surface includes anti-rotational structure and the anti-rotational structure is sized and shaped for compatible mating engagement with the sample tube anti-rotation structure.